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ABSTRACT

An investigation was made into the levels of user demands made upon the four libraries of the City of London Polytechnic, the degree of user satisfaction, and the kinds of services provided. An overall measure of library effectiveness was derived, and a series of 30 detailed observations covered: 1) basic statistics on the usage of the various libraries by different groups; 2) library use statistics which can be used for long-range purposes; and 3) basic statistics on the usage of library materials. It was concluded that such data are useful for planning and policy making, but that much additional research needs to be carried out. (PE)

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CITY OF LONDON POLYTECHNIC

LIBRARY AND LEARNING RESOURCES SERVICE

LIBRARY EFFECTIVENESS STUDY

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SUMMARY

This report summarises an investigation carried out to determine a measure of library effectiveness, as well as a number of other factors relating to the use of the CoLP Library Service.

Analyses of the results obtained, and observations on these, are given in Section 5.

LIBRARY EFFECTIVENESS STUDY

1. OBJECTIVES

The objectives of the study were to determine:

.1 a measure of overall library effectiveness;

.2 basic statistics on usage of libraries by academic departments and by status;

.3 certain longer term statistics, which will be useful in the future, on activities carried out in the library, multiple use of the library etc.;

.4 basic statistics on usage of library material.

2. INTRODUCTION

.1 This investigation was carried out to determine a measure of effectiveness of the CoLP library service, as well as a number of other factors relating to the use of libraries which should be of value to the resources and services staff.

.2 The basic premise upon which this study is based is that:
.1 User satisfaction = Effective services + efficient services.
(As explained in Planning and Development Notes 1).

.3 The measure of effectiveness to be determined is taken from an article by Rzasa and Baker (1972)[1], in which

$$\text{Effectiveness } E = w_1 e_1 + w_2 e_2 + w_3 e_3$$

where w_1, w_2, w_3 are weighting factors

and $e_1 = \frac{m}{N}\left(1 + \frac{n}{N}\right)$

$$e_2 = \frac{r_2}{N}\left(1 + \frac{r_1}{N}\right)$$

$$e_3 = \frac{S}{N^2}$$

where

m = total number of material items used (reshelved) per time period

N = total user population

n = total number who use the library ($n \leq N$)

r_1 = total number of non-material information items sought per time period (i.e. questions asked)

r_2 = total number of acceptable non-material information items supplied (i.e. questions satisfactorily answered)

S = number of users who are studying with their own materials or who are there for social purposes.

.4 n and s were established using a questionnaire survey (see 3.5).

.5 m was established by means of a reshelving survey (see 3.6).

.6 Although it was originally intended that r_1 and r_2 should be taken from a reference question survey (see 3.4) it was finally decided that they should be taken from the questionnaire survey.

.7 N was taken from figures on academic staff, students and other staff supplied by the CoLP administration.

.8 In addition to establishing these values it was also decided that the questionnaire should discover users' primary reason for visiting the library. Downs and Seibert (1967)[2] cite eleven reasons:

.1 Find and read material required for a course

.2 Read material for self improvement

.3 Read for pleasure or fun

.4 Borrow library material for further reading

.5 Do research for a term paper

.6 Do research for graduate exams or thesis work

.7 Do research for a publishable paper or book

.8 Get some material copied (Xerox)

.9 Return materials (books) to the library

.10 Do home work with own books

.11 Seek information which does not require borrowing of library materials (questions answered by reference librarians).

These reasons formed the basis of the first question on the questionnaire.

.9 The questionnaire also asked users' to indicate whether they got exactly what they came into the library for and whether they were satisfied with their visit to the library. The figures received in this way provide some subjective indication of user satisfaction.

.10 In addition the questionnaire asked for details of status (i.e. academic staff, postgraduate student, other staff and all other students) and attendance (i.e. full-time and part-time), the user's academic department and his name. This latter enabled an analysis of multiple use to be made and no difficulties arising from this question were encountered during the survey.

.11 Four site libraries are operated by CoLP LLRS:

.1 School of Business Studies, 84 Moorgate (BS)

.2 School of Science and Technology, 139 Minories (ST)

.3 School of Navigation, 100 Minories (N)

.4 School of Science and Technology/School of Art Central House, Whitechapel High Street (CH)

.12 BS serves the following departments:

.1 Banking and commerce, business studies, accountancy

.2 Economics, marketing and management, politics and government

.3 Modern languages

.4 Professional studies, including law and insurance

.5 Secretarial studies

.6 Shipping and commercial products

.13 ST serves the following departments:

.1 Biological sciences

.2 Chemistry

.3 Geology and geography

.4 Mathematics and statistics

.5 Physics

.6 General studies

.14 N serves the following departments:

.1 Navigation

.15 CH serves the following departments:

.1 Metallurgy and materials

.2 Psychology

.3 Fine and applied arts

.4 Silversmithing.

.16 Bibliography

.1 Rzasa, P.V. and Baker N.R., Measures of effectiveness for a University Library. Jour. Amer. Soc. for Infor. Sci., Jul.-Aug. 1972. p.248-253.

.2 Downs, R.B., A survey of the libraries of the Purdue University Lafayette, Indiana: Purdue University Libraries, 1967.

3. SURVEY PROCEDURES

.1 The library effectiveness study data collection was carried out in February 1973 at the four site libraries. Personnel involved in the study were A. Pritchard, M. Auckland and M. Castens.

.2 The study was carried out by means of a questionnaire survey, a reshelving survey and a reference question survey.

.3 The timetable for the study was:

15.1.73	A note outlining the objectives and proposed methods of the study was sent to all library staff.
22.1.73	A note providing guidance about the conduct of the study was sent to all library staff. (Appendix 8.1)
1.2.73	Reference question survey began.
2.2.73	Navigation library supplied with pre-questionnaire survey notices.
5.2.73-9.2.73	All libraries supplied with notices, questionaires (Appendix - 8.2) and boxes. Briefing sessions held for library staff.
12.2.73-16.2.73	Questionnaire survey
16.2.73	Reshelving survey notices distributed.
19.2.73-23.2.73	Reshelving survey.
28.2.73	Reference question survey ended.
26.2.73-2.3.73	Coding of questionnaires.
12.3.73-23.3.73	Collection of reshelving survey data.
2.4.73-18.5.73	Analysis of study data.

.4 Reference question survey. This survey utilised a reference enquiry form already in use in the Business Studies Library (Appendix - 8.3). All libraries were supplied with these forms, and library staff were asked to record the date, the enquiry the academic department, status and attendance of the enquirer. They were also asked to make and record a subjective evaluation of whether or not the enquiry was satisfactorily answered.

.1 A definition of an information enquiry, for the purposes of this survey, was given in the study guidance notes (Appendix 8.1).

.2 All library personnel were asked to complete these forms, not just those senior staff with specific responsibility for enquiry work.

.3 The results obtained from this survey were not used to calculate r_1 and r_2 due to the incompleteness of the forms received.

.5 Questionnaire survey

.1 Navigation library displayed notices for the week prior to the survey to inform users that it was going to take place. This was done because it was felt by the library staff that some user resistance may otherwise have been encountered.

.2 During the survey week notices were displayed on the library doors informing users of the survey. Questionnaires, which were printed on yellow paper to make them more noticeable, were placed in a box near the library entrance, and a box for those completed placed next to it.

.3 Users were asked to complete a questionnaire each time they visited the library.

.4 Library staff were requested to ask users to complete a questionnaire if they were seen leaving the library without doing so.

.5 Library staff were also asked to complete questionnaires if they used the library apart from helping readers (e.g. to look up a telephone number or to borrow a book for their own use).

.6 Returned questionnaires were collected at three specific times a day by the library staff. These times were:

just before 09.00 a.m.

13.00 p.m.

17.00 p.m.

.7 Each bundle of collected questionnaires indicated the name of the time period (i.e. those collected, before 09.00, evening; at 13.00, a.m.; and at 17.00, p.m.), and the day of the week. These bundles were returned to the research team.

.8 On the first day of the survey each library was visited by the research team who observed the number of people who did or did not complete a questionnaire. This was to establish some idea of the response rate, which was estimated to be about 70-75%.

.9 The information on the questionnaires was transferred to coding sheets (Appendix - 8.4). It was originally intended to analyse the data by computer using the ICL Survey Analysis package, but this idea was abandoned after several attempts to run the program proved unsuccessful. Finally all the analysis was done manually.

.10 Each table compiled in the analysis was subjected to a chi-square test to establish whether or not it was statistically significant.

.11 Out of 2,155 questionnaires collected only 32 had to be rejected.

.6 Reshelving survey

.1 As library users have been trained to reshelve material which they use in the library, it was necessary to put up notices in the libraries requesting users not to do so for the period of the survey.

.2 All returned loan copies of books were counted and reshelved at one hourly intervals (09.00, 10.00, 11.00 etc.) and the

.1 Any returned loans which were held at the issue desk as reservations were included in this count.

.3 Books (i.e. reference books and loan books used for reference purposes) and periodicals used in the library were reshelved from the tables at hourly intervals and two processes carried out:

.1 A count of the items reshelved and the recording of the number on to the form provided;

.2 A normal issue slip, secured by a paper clip, was placed in the back of each item and stamped with the day's date. The issue slip was date stamped each time the item was reshelved.

.4 At a later date every book and periodical in each library was checked to see whether it had an issue slip at the back or not. When an issue slip was found the class mark of the book and an indication of whether it was lending stock or from a special collection was added to it. Issue slips found in periodicals had the title of the journal and the date of the volume or part added to them. The slips were removed from the items and kept in separate bundles for each library.

4. ABBREVIATIONS

Reasons (a - l)

a	Find and read material required for course
b	Use or read material not connected with course
c	Borrow library material for further reading
d	Do research for term papers or seminar papers
e	Do research for graduate exams or thesis
f	Do research for publishable paper or book
g	Get some material photocopied
h	Return materials to the library
i	Work with own books
j	Seek information which does not require borrowing of library materials (asking a question of library staff)
k	Any other reason
l	No reason or more than one reason

Libraries

BS	Businesss Studies
CH	Central House
ST	Science and Technology
N	Navigation

Time

1 - 5	Monday to Friday
.1-.3	Morning, Afternoon and Evening.
.1	9 a.m. to 1 p.m.
.2	1 p.m. to 5 p.m.
.3	5 p.m. to Closing Time*

4. ABBREVIATIONS

*Closing Times

~~Business Studies~~	9 p.m. Monday to Friday
Central House)	7 p.m. Monday to Thursday
Navigation)	5 p.m. Friday
Science and Technology	9 p.m. Monday to Thursday 5. 30 p.m. Friday

Departments A - U

A	Banking, Commerce, Business Studies and Accountancy
B	Economics, Management and Marketing
C	Modern Languages
D	Professional studies
E	Secretarial studies
F	Shipping and commercial products
G	Biological sciences
H	Chemistry
I	Geology and Geography
J	Mathematics and Statistics
K	Metallurgy and Materials
L	Physics
M	Psychology
N	General Studies
P	Navigation
Q	Fine and applied arts
R	Silversmithing
S	Administration
T	Library
U	Other

5. RESULTS

5.1 OVERALL LIBRARY EFFECTIVENESS

$N = 4,551$

$m = 4,000$

$r = 1,178$

$r_1 = 41$

$r_2 = 28$

$S = 552$

$e_1 = 1.10643$

$e_2 = .0061$

$e_3 = .00003$

$E = 1.11256$

.1 It must be remembered that as it stands this figure has no meaning. It is the measure of effectiveness for the CoLP library service at the time of the study. When significant changes have been made within the service (e.g. revised lending policies, computerisation etc.) another measure will be established which will be compared against this figure to see whether or not effectiveness has improved. Similarly if other Polytechnic libraries establish a measure of effectiveness based on the same principle, comparisons can be made.

.2 No weighting factors have been added since the equation assumed that working with own books and using the library for social purposes are less important then asking questions of the library staff or using library material, and we believe the latter two to be of equal importance.

5.2 NOTES ON THE TABLES

.1 A detailed index follows these notes.

.2 Where tables are large, the percentage figures only are given.

.3 For most of the tables the value of chi-squared has been calculated and given. Since we have no objective figures for expected values, we have taken the overall sample figure and computed the expected value from this ratio. Thus all comments upon significance refer to a comparison between the item in question and the sample as a whole. Thus if we consider Reason x Satisfaction we are saying that compared with the satisfaction level of all the users of the libraries in the survey week, there are significant variations in the levels of satisfaction depending upon the reasons users came to the library.

We admit of course that users of the library are a biased sample of the population as a whole but feel that in spite of this the information is useful.

Following a general statement of significance as a whole, the reminder of the commentary consists of statements relating to individual cells in the contingency table. The statements of importance of individual cells have strictly speaking no statistical value. However, we feel that the chi-squared value of each cell does say something and, especially if the figures are not taken to too great a degree of refinement, can be used to make useful statements which point out variations in behavior. Since chi-squared uses an expected value as the denominator it means that we can sometimes only make a negative statement. Because the expected value of the converse (where we have two rows or columns) is high the chi-squared value is correspondingly low and thus is not commented upon.

.4 Only 32 questionnaires were totally unusable. Of the remaining 2,123 questionnaires, however, in some cases we were able to accept only some replies. E.g. if a questionnaire did not have answers to the 'satisfied' question, we could accept it for all other tables. This accounts for the variation in total answers to some questions.

.5 In the 'time period' and 'time of day' tables the figures for Friday evening were drawn from the sample at BS only. This accounts the low number. In some cases they have been ommitted, thus accounting for the variation in totals.

5.3 INDEX TO TABLES

Table	Section
Attendance	5.4.3
x day	5.30
x find it	5.7
x library	5.16
x reason	5.13
x satisfaction	5.6
x status	5.12
x time of day	5.29
x time period	5.28
Date of journal	
x journal use	5.49
Day	
x attendance	5.30
x department	5.45
x find it	5.33
x reason	5.39
x satisfaction	5.42
x status	5.36
Department	5.4.6
x day	5.45
x find it	5.21
x journal use	5.48
x library	5.11
x reason	5.26
x satisfaction	5.24
x status	5.20
x time of day	5.44
x time period	5.43

Find it	5.4.4
x attendance	5.7
x day	5.33
x department	5.21
x library	5.9
x reason	5.18
x satisfaction	5.8
x status	5.23
x time of day	5.32
x time period	5.31
Frequency of visit	5.5
Journal use	
x date of journal	5.49
x department	5.48
x library	5.47
Library	5.4.7
x attendance	5.16
x department	5.11
x find it	5.9
x journal use	5.47
x reason	5.17
x satisfaction	5.10
x status	5.15
x time period	5.27
x use of material	5.46
Reason	5.4.1
x attendance	5.13
x day	5.39
x department	5.26
x find it	5.18
x library	5.17
x satisfaction	5.19
x status	5.14
x time of day	5.38
x time period	5.37

Satisfaction	5.4.5
x attendance	5.6
x day	5.42
x department	5.24
x find it	5.8
x library	5.10
x reason	5.19
x status	5.25
x time of day	5.41
x time period	5.40
Status	5.4.2
x attendance	5.12
x day	5.36
x department	5.20
x find it	5.22
x library	5.15
x reason	5.14
x satisfaction	5.25
x time of day	5.35
x time period	5.34
Time of day	
x attendance	5.29
x department	5.44
x find it	5.32
x reason	5.38
x satisfaction	5.41
x status	5.35
Time period	
x attendance	5.28
x department	5.43
x find it	5.31
x library	5.27
x reason	5.37
x satisfaction	5.40
x status	5.34
Use of material	

5.4 PERCENTAGE AND NUMBER OF USERS IN EACH CATEGORY ON THE QUESTIONNAIRE

.1 Reason for visit to the library

		%	No.
a.	Find and read material required for course	31	664
b.	Use or read material not connected with course	8	161
c.	Borrow library matrial for further reading	9	201
d.	Do research for term papers or seminar paper	6	126
e.	Do research for graduate exams or thesis	3	62
f.	Do research for publishable paper or book	1	25
g.	Get some material photocopied	3	54
h.	Return materials to the library	3	74
i.	Work with own books	20	424
j.	Seek information which does not require borrowing of library materials (asking a question of library staff)	2	41
k.	Any other reason	6	131
l.	No reason, or more than one reason	8	160
			2,123

.2 Status of Users

	%	No.
Academic staff	15	314
Other staff	1	32
Postgraduate students	5	107
Students	79	1,670
		2,123

.3 Attendance of Users

	%	No.
Full-time	89	1,883
Part-time	11	240
		2,123

.4 Whether the users found what they came in for

	%	No.
Yes	79	1,658
No	21	444
		2,102

.5	Whether the users were satisfied with their visit	%	No.
	Yes	82	1,729
	No	18	373
			2,102

.6	Department of Users		
	A Banking, Commerce, Business Studies and Accountancy	22	461
	B Economics, Management and Marketing	12	253
	C Modern languages	1	13
	D Professional studies	14	295
	E Secretarial studies	2	43
	F Shipping and commercial products	1	31
	G Biological sciences	4	75
	H Chemistry	2	40
	I Geology and Geography	6	120
	J Mathematics and Statistics	3	66
	K Metallurgy and Materials	4	89
	L Physics	2	50
	M Psychology	5	115
	N General studies	<1	2
	P Navigation	17	363
	Q Fine and Applied Arts	1	21
	R Silversmithing	1	31
	S Administration	<1	5
	T Library	<1	5
	U Other	3	62
			2,123

.7	Number of visits to individual libraries		
	Business Studies Library	53	1,128
	Central House Library	12	258
	Science and Technology Library	17	361
	Navigation Library	18	376
			2,123

5.5 FREQUENCY OF VISIT

.1

Number of Visits	Number of Persons
16	1
12	1
11	1
10	6
9	8
8	4
7	13
6	12
5	25
4	57
3	77
2	185
1	788

.2 TOTAL NUMBER OF USERS IN THE TIME PERIOD = 1,178

.3 Average number of visits = 1.8

5.6 ATTENDANCE x SATISFACTION

.1

	Full-Time		Part-Time		Total	
Satisfied	1,506	(81%)	223	(94%)	1,729	(82%)
Not satisfied	359	(19%)	14	(6%)	373	(18%)
Total	1,865		237		2,102	

.2 The difference is significant at the 1% level (chi-square = 25.6). The significant cell in this table is the Part-Time - Not satisfied one which is lower than expected.

5.7 ATTENDANCE x FIND IT

.1

	Full-Time		Part-Time		Total	
Find it	1,457	(78%)	201	(85%)	1,658	(79%)
Not Find it	408	(22%)	36	(15%)	444	(21%)
Total	1,865		237		2,102	

.2 The difference is significant at the 5% level (Chi-squared = 5.6). As in Table 5.6 the significant cell is the Part-Time - Not find it one which is lower than expected. Considering the two tables together it seems probable that Part-time users make less demands on the library and are therefore less likely to be unsatisfied. To some extent Table 5.13 confirms this. It would seem a reasonable hypothesis that even in borrowing books part-time students are more likely to want the standard texts which the library is inherently more likely to have.

5.8 SATISFACTION x FIND IT

.1	Satisfied		Not Satisfied		Total	
Find it	1,606	(93%)	52	(14%)	1,658	(79%)
Not find it	123	(7%)	321	(86%)	444	(21%)
Total	1,729		373		2,102	

.2 As one would expect the difference is highly significant (Chi-squared = 1,144!), although the figures in the top-right - bottom left diagonal are interesting. If we recalculate chi-squared on the assumption that all who find an item should be satisfied then the value rises to 3,241. The interesting fact emerges that on this assumption many more people are satisfied who do not find material, than would be expected. Perhaps they were just being nice to us.

5.9 LIBRARY x FIND IT

.1	BS	N	ST	CH	Total
Find it	902 (81%)	320 (87%)	252 (70%)	184 (71%)	1,658 (79
Not find it	214 (19%)	49 (13%)	107 (30%)	74 (29%)	444 (2
Total	1,116	369	359	258	2,102

.2 This table and Table 5.10 are again complementary. It is significant at the 1% level (chi-squared = 41.7). The interesting cells here are ST and CH which have a lower level of finding material and N which has a higher one. It is probable that these figures can be explained by the degree of demand made upon the libraries. More research is carried out at ST and we would expect a much wider range of requests for material which would not be immediately available in the library. Conversely N courses are more at a craft level and make less demands (or more predictable ones) upon the library. The explanation for CH is undoubtedly affected by the course mixture of science and art - both of which make wide demands.

5.10 LIBRARY x SATISFACTION

.1

	BS	N	ST	CH	Total
Satisfied	923 (83%)	328 (89%)	283 (79%)	195 (76%)	1,729 (82%)
Not satisfied	193 (17%)	41 (11%)	76 (21%)	63 (24%)	373 (18%)
Total	1,116	369	359	258	2,102

.2 As with the general table on satisfaction (5.6), satisfaction levels in individual libraries rise from the "Findit" level. This table is significant at the 1% level (chi-squared = 21.9). As with table 5.9, ST is low on satisfaction although not as low as CH, whilst N is high. The reason for the drop in CH, satisfaction as compared with "findit" is not immediately apparent - possibly arts students are less tolerant than scientists.

5.11 LIBRARY x DEPARTMENT

.1	BS N = 1,116	N N = 369	ST N = 359	CH N = 258
A	41	0	0	0
B	21	<1	0	0
C	1	0	0	0
D	26	0	0	0
E	4	0	0	0
F	3	1	0	0
G	0	0	21	0
H	0	<1	11	0
I	<1	0	32	1
J	<1	2	16	0
K	<1	1	1	32
L	<1	1	13	0
M	<1	0	0	43
N	0	0	1	0
P	1	94	<1	0
Q	0	0	0	8
R	0	0	0	12
S	<1	1	<1	0
T	<1	1	<1	0
U	3	<1	5	4
TOTAL	100	101	100	100

.2 The table is significant at the 1% level (chi-squared = 5,717) which is only to be expected. One would expect very little cross use of libraries by departments other than those they immediately serve. This is not to say that such lack of cross use is desirable as there are several areas in which staff and students could usefully use the resources of other libraries e.g. psychology at BS and CH, statistics at BS, CH and ST.

.3 Recasting this table slightly so that the departments are grouped by schools we obtain the following percentage table:

.3.1	BS Lib.	N Lib.	ST Lib.	CH Lib.
BS Departments	95	1	0	0
N "	1	94	<1	0
ST "	<1	2	94	1
CH "	<1	<1	1	95
Other "	3	2	6	4

.4 If we again condense this table so that use of the various libraries is divided into its "own" departments and "other" departments we find that there is no significant difference between libraries (chi-squared = 3.4 when chi-squared at even the 5% level is 7.8 for 3 degrees of freedom).

5.12 STATUS x ATTENDANCE

.1	Academic staff	Post-graduates	Other staff	Students	Total
Full-time	303 (96%)	75 (70%)	30 (94%)	1,475 (88%)	1,883 (89%)
Part-time	11 (4%)	32 (30%)	2 (6%)	195 (12%)	240 (11%)
Total	314	107	32	1,670	2,123

.2 As one would expect this table is significant at the 1% level - most institutions contain a higher percentage of full-time staff than full-time students. On the other hand the number of part-time postgraduate students using the libraries is much higher than would be expected and to some extent the number of part-time academic staff is lower.

5.13 ATTENDANCE x REASON

.1	Full-time	Part-time	Total
a	605 (32%)	59 (25%)	664 (31%)
b	142 (8%)	19 (8%)	161 (8%)
c	165 (9%)	36 (15%)	201 (9%)
d	123 (7%)	3 (1%)	126 (6%)
e	55 (3%)	7 (3%)	62 (3%)
f	24 (1%)	1 (<1%)	25 (1%)
g	52 (3%)	2 (1%)	54 (3%)
h	66 (4%)	8 (3%)	74 (3%)
i	365 (19%)	59 (25%)	424 (20%)
j	39 (2%)	2 (1%)	41 (2%)
k	124 (7%)	7 (3%)	131 (6%)
l	123 (7%)	37 (15%)	160 (8%)
Total	1,883	240	2,123

.2 Chi-squared = 57.9 so that there is a significant difference (at the 1% level) in the reasons that full and part-time users come to the library. More part-time users come to the library for multiple reasons and to borrow material for further reading whilst they do less research for term papers.

5.14 STATUS x REASON (%)

.1	Academic staff	Postgraduate	Other staff	Student	Total
	N = 314	N = 107	N = 32	N = 1,670	N = 2,123
a	21	19	16	34	31
b	11	7	25	7	8
c	13	14	9	9	9
d	1	1	0	7	6
e	1	8	3	3	3
f	4	6	9	<1	1
g	8	3	3	1	3
h	8	5	0	3	3
i	2	12	16	24	20
j	8	3	3	1	2
k	11	5	6	5	6
l	10	19	9	6	8
Total	98	102	99	100	100

.2 This table is very significant at the 1% level (chi-squared = 428) and the significant elements are:

More academic staff and to some extent fewer students ask the library staff for information (j)

Fewer academic staff work with their own-books (i)

More academic staff and fewer students do research for publishable papers (f)

More academic staff get material photocopied (g)

The first three features are not suprising. The fourth is and could possibly have altered since the introduction of coin-operated photocopiers.

5.15 LIBRARY x STATUS

.1

	BS	N	ST	CH	Total
	N = 1,128	N = 376	N = 361	N = 258	N = 2,123
Academic staff	8	37	11	16	15
Postgraduate	3	2	11	9	5
Other staff	1	2	3	2	2
Student	88	59	75	74	79
Total	100	100	100	101	101

.2 This table is significant at the 1% level (chi-squared = 246) and the most significant elements are:

More academic staff use N

Fewer academic staff use BS

More postgraduate students use ST

The latter is explainable in terms of the number of post-graduate students at ST and the first element in terms of the practical nature of N courses (see Table 5.9 also). The second feature is surprising and not readily explainable in terms of lack of success or satisfaction at BS or indeed of any other factors.

5.16 LIBRARY x ATTENDANCE

.1	BS	N	ST	CH	Total
Full-time	1,002 (89%)	347 (92%)	324 (90%)	210 (81%)	1,883 (89%)
Part-time	126 (11%)	29 (8%)	37 (10%)	48 (19%)	240 (11%)
Total	1,128	376	361	258	2,123

.2 Significant at the 1% level (chi-squared = 19) this table is interesting in that it seems to show that the part-time students and staff at CH use the library considerably more than one would expect.

5.17 LIBRARY x REASON (%)

.1	BS	N	ST	CH	Total
	N = 1,128	N = 376	N = 361	N = 258	N = 2,123
a	32	28	31	35	31
b	5	17	5	9	8
c	6	13	16	12	9
d	8	1	4	7	6
e	3	1	4	3	3
f	<1	<1	4	2	1
g	1	9	2	2	3
h	2	7	5	5	3
i	29	7	12	9	20
j	1	5	2	2	2
k	6	6	3	9	6
l	7	7	10	7	8

.2 This table is highly significant at the 1% level (chi-squared = 424) and shows that there are real differences between the libraries. The major factors are:

High use at BS for working with own books (i)

High use at N for photocopying and non-course material (g) & (b)

Low use at N for working with own books (i)

	a	b	c	d	e	f	g	h	i	j	k	l	Total
d it	463 (70%)	134 (84%)	147 (74%)	77 (61%)	40 (67%)	16 (67%)	49 (94%)	69 (96%)	411 (97%)	28 (68%)	105 (81%)	119 (76%)	1,658 (79%)
find it	198 (30%)	25 (16%)	52 (26%)	49 (39%)	20 (33%)	8 (33%)	3 (6%)	3 (4%)	12 (3%)	13 (32%)	24 (19%)	37 (24%)	444 (21%)
al	661	159	199	126	60	24	52	72	423	41	129	156	2,102

Significant at the 1% level (chi-squared = 177) this table, not surprisingly, shows that people coming to work with their own books are much less likely not to be able to find what they want (i). However, it also shows that they are less likely to find material required for course reading(a).

5.19 REASON x SATISFACTION

1	a	b	c	d	e	f	g	h	i	j	k	l	Total
Satisfied	502 (76%)	141 (89%)	167 (84%)	81 (64%)	44 (73%)	18 (75%)	49 (94%)	70 (97%)	398 (94%)	32 (78%)	102 (79%)	125 (80%)	1,729 (82%)
Not satisfied	159 (24%)	18 (11%)	32 (16%)	45 (36%)	16 (27%)	6 (25%)	3 (6%)	2 (3%)	25 (6%)	9 (22%)	27 (21%)	31 (20%)	373 (18%)
Total	661	159	199	126	60	24	52	72	423	41	129	156	2,102

2 Significant at the 1% level (chi-squared = 115) this table again shows a similar pattern to Table 5.18 i.e. less likelihood of being unsatisfied if working with own books and more likelihood of being unsatisfied if looking for course material. However, in addition there is greater likelihood also of a user doing research for term papers being unsatisfied (d).

5.20 DEPARTMENT x STATUS (%)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	Total
demic staff	7	8	38	9	2	35	17	23	2	11	23	10	14	50	38	14	6	0	0	3	15
tgraduates	2	>1	0	3	21	0	11	8	2	9	25	34	1	0	3	5	0	0	0	8	5
er staff	>1	>1	0	>1	12	0	1	15	1	0	1	2	0	0	0	10	0	100	100	2	2
dents	90	91	62	88	65	65	71	54	94	80	51	54	85	50	60	71	94	0	0	87	79
=	457	234	13	291	43	31	75	39	120	66	88	50	114	2	356	21	31	5	5	61	2,102

Not surprisingly in view of the know distribution of user types among departments this table is highly significant. Even if we remove postgraduates and other staff from the analysis there is significant variation in the use by staff and students. In particular there is more use by Navigation (P) staff and less by students and less use by Banking and Commerce (A) staff.

5.21 DEPARTMENT x FINDIT (%)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	S	R	T	U	Total
d it	82	69	69	89	95	71	75	85	53	85	74	78	64	50	86	76	84	80	80	77	79
find it	18	31	31	11	5	29	25	15	47	15	26	22	36	50	14	24	16	20	20	23	21
=	457	234	13	291	43	31	75	39	120	66	88	50	114	2	356	21	31	5	5	61	2,102

Chi-squared for this table = 128, so it is significant at the 1% level. In particular Geology (I) users are less likely to find what they want and more likely not to, Professional Studies (D) are less likely not to find material and Psychology (M) and Economics (B) are more likely not to find material.

5.22 STATUS x FIND IT

.1	Academic staff	Post-graduates	Other staff	Students	Total
Find it	266 (87%)	80 (78%)	21 (66%)	1,291 (78%)	1,658 (79%)
Not find it	41 (13%)	23 (22%)	11 (34%)	369 (22%)	444 (21%)
Total	307	103	32	1,660	2,102

For comments see 5.23.

5.23 FIND IT x STATUS

.1	Find it	Not find it	Total
Academic staff	266(16%)	41(9%)	307(15%)
Postgraduates	80(5%)	23(5%)	103(5%)
Other staff	21(1%)	11(2%)	32(2%)
Students	1,291(78%)	369(84%)	1,660(80%)
Total	1,658	444	2,102

.2 Just significant at the 1% level (chi-squared = 15), the only possibly significant element is that academic staff are less likely not to find items.

5.24 DEPARTMENT x SATISFACTION (%)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U
isfied (82)	86	71	92	86	98	81	81	82	66	94	84	82	65	100	88	100	77	100	80	80
satisfied(18)	14	29	8	14	2	19	19	18	34	6	16	18	35	0	12	0	23	0	20	20
=	457	234	13	291	43	31	75	39	120	66	88	50	114	2	356	21	31	5	5	61

With a chi-squared value of 101 this table is highly significant at the 1% level. It shows that 3 departments: Economics (B), Geology (I) and Psychology (M) are more likely not to be satisfied.

5.25 STATUS x SATISFACTION

.1	Academic staff	Post-graduates	Other staff	Students	Total
Satisfied	278 (91%)	91 (88%)	23 (72%)	1,337 (81%)	1,729 (82%)
Not satisfied	29 (9%)	12 (12%)	9 (28%)	323 (19%)	373 (18%)
Total	307	103	32	1,660	2,102

.2 Significant at the 1% level (chi-squared = 22), the important element is that academic staff are less likely not to be satisfied. Here, one suspects, the "research" hypothesis is overlain by the increased information gathering sophistication of academic staff.

REASON	DEPARTMENT																			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	Total
	N= 461	N= 235	N= 13	N= 295	N= 43	N= 31	N= 75	N= 40	N= 121	N= 66	N= 89	N= 50	N= 115	N= 2	N= 363	N= 21	N= 31	N= 5	N= 5	N= 62	N= 2,123
	37	32	8	27	19	45	32	15	50	14	30	16	39	0	28	33	39	0	0	26	31
	5	2	23	4	14	6	5	3	4	8	9	6	3	0	17	19	16	40	40	8	8
	6	7	8	4	0	13	17	23	14	15	9	12	14	0	12	14	10	20	20	15	9
	6	23	8	2	5	0	8	5	2	0	2	6	13	0	1	0	0	0	0	2	6
	4	1	0	3	0	6	4	5	3	0	6	8	1	0	1	0	3	0	0	8	3
	0	0	0	1	0	0	4	18	1	0	7	8	0	0	<1	0	0	0	20	0	1
	1	<1	8	1	0	0	5	5	0	5	3	0	1	0	9	0	0	0	0	2	3
	1	1	8	2	2	6	8	0	4	6	7	6	2	50	7	5	10	0	0	2	3
	29	14	15	45	51	6	7	15	10	29	11	12	8	0	6	5	10	0	0	15	20
	1	1	8	<1	0	0	0	0	2	2	0	4	3	0	6	5	0	0	20	3	2
	5	9	0	5	2	3	3	0	1	12	7	2	14	0	7	10	6	40	0	16	6
	6	9	15	6	7	13	7	13	10	11	9	20	3	50	7	10	6	0	0	5	8

Due to the very large number of expected values ≤5 and our reluctance to merge reasons, we are not quoting a chi-square value for this table. It seems probable however, that the differences are significant and that the major factors are:

Economics (B) more likely to do research for term papers (d)
Professional studies (D) more likely to work with own books (i)
Navigation (P) more likely to have material photocopied (g), use material not connected with course (b) and to seek information (j) but less likely to work with own books (i).
Metallurgy (K) more likely to do research for a publishable paper (f)

.1	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	
BS	117	110	48	54	146	85	63	83	55	66	88	55	58	56	32	1,116
N	44	47	7	30	45	11	25	36	9	33	26	3	28	25	-	369
ST	37	33	14	37	46	21	23	10	25	15	29	3	27	39	-	359
CH	14	47	9	16	24	8	19	14	7	24	23	5	23	25	-	258
Total	212	237	78	137	261	125	130	143	96	138	166	66	136	145	32	2,102
%	40	45	15	26	50	24	35	39	26	37	45	18	44	46	10	

.2 This table presents the raw data only this time as we were not certain of the best way to present percentages. The precentage figures along the bottom represent % use within each day. Statistically significant at the 1% level even when we exclude Friday evening. The major variations are more at BS on Thursday evening, more at CH on Monday p.m., less at ST on Wednesday p.m. This latter reflects the much greater involvement of science students generally with sport - a well know observable fact at any college or university.

5.28 TIME PERIOD x ATTENDANCE

.1	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	Total
Full-time	194 (92%)	224 (95%)	60 (77%)	123 (90%)	240 (92%)	84 (67%)	125 (96%)	129 (90%)	64 (67%)	134 (97%)	156 (94%)	51 (77%)	126 (93%)	134 (92%)	21 (66%)	1,865 (89%)
Part-time	18 (8%)	13 (5%)	18 (23%)	14 (10%)	21 (8%)	41 (33%)	5 (4%)	14 (10%)	32 (33%)	4 (3%)	10 (6%)	15 (23%)	10 (7%)	11 (8%)	11 (34%)	237 (11%)
Total	212	237	78	137	261	125	130	143	96	138	166	66	136	145	32	2,102

5.29 TIME OF DAY x ATTENDANCE

.1	Morning		Afternoon		Evening		Total	
Full-time	702	(93%)	883	(93%)	280	(71%)	1,865	(89%)
Part-time	51	(7%)	69	(7%)	117	(29%)	237	(11%)
Total	753		952		397		2,102	

This table is significant at the 1% level (chi-squared = 160) and reflects the obvious higher use in the evening by part-time students.

5.30 DAY x ATTENDANCE

.1	Mon.	Tues.	Wed.	Thur.	Fri.	Total
Full-time	478 (91%)	447 (85%)	318 (86%)	341 (92%)	281 (90%)	1,865 (89%)
Part-time	49 (9%)	76 (15%)	51 (14%)	29 (8%)	32 (10%)	237 (11%)
Total	527	523	369	370	313	2,102

.2 This table is just significant at the 1% level (chi-squared = 14.43) and represents a greater use of the libraries by part time users on Tuesday and a lesser one on Thursday. We have not investigated the part-time course pattern but would guess that the differences reflect this.

5.31 TIME PERIOD x FIND IT

.1	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	Total
Find it	171	174	64	108	198	100	113	107	77	106	133	53	113	117	24	1,658
	(81%)	(73%)	(82%)	(79%)	(76%)	(80%)	(87%)	(75%)	(80%)	(77%)	(80%)	(80%)	(83%)	(81%)	(75%)	(79%)
Not find it	41	63	14	29	63	25	17	36	19	32	33	13	23	28	8	444
	(19%)	(27%)	(18%)	(21%)	(24%)	(20%)	(13%)	(25%)	(20%)	(23%)	(20%)	(20%)	(17%)	(19%)	(25%)	(21%)
Total	212	237	78	137	261	125	130	143	96	138	166	66	136	145	32	2,102

5.32 TIME OF DAY x FIND IT

.1	Morning	Afternoon	Evening	Total
Find it	611 (81%)	729 (77%)	318 (80%)	1,658 (79%)
Not find it	142 (19%)	223 (23%)	79 (20%)	444 (21%)
Total	753	952	397	2,102

.2 This table is not significant (chi-squared = 5.7)

5.33 DAY x FIND IT

.1	Mon.	Tues.	Wed.	Thur.	Fri.	Total
Fint it	409 (78%)	406 (78%)	297 (80%)	292 (79%)	254 (81%)	1,658 (79%)
Not find it	113 (22%)	117 (22%)	72 (20%)	78 (21%)	59 (19%)	444 (21%)
Total	527	523	369	370	313	2,102

.2 This table is not significant (chi-squared = 2.65)

.1	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	Total
Academic staff	38 (18%)	49 (21%)	6 (8%)	21 (15%)	22 (8%)	7 (6%)	19 (15%)	28 (20%)	9 (9%)	20 (14%)	35 (21%)	7 (11%)	22 (16%)	22 (15%)	2 (6%)	307 (15%)
Post-graduate	8 (4%)	8 (3%)	6 (8%)	7 (5%)	8 (3%)	7 (6%)	7 (5%)	11 (8%)	4 (4%)	6 (4%)	7 (4%)	4 (6%)	10 (7%)	9 (6%)	1 (3%)	103 (5%)
Other staff	1 (<1%)	4 (2%)	0 (0%)	3 (2%)	1 (<1%)	3 (2%)	4 (3%)	4 (3%)	2 (2%)	3 (2%)	3 (2%)	0 (0%)	2 (1%)	2 (1%)	0 (0%)	32 (2%)
Student	165 (78%)	176 (74%)	66 (85%)	106 (77%)	230 (88%)	108 (86%)	100 (77%)	100 (70%)	81 (84%)	109 (79%)	121 (73%)	55 (83%)	102 (75%)	112 (77%)	29 (91%)	1,660 (79%)
Total	212	237	78	137	261	125	130	143	96	138	166	66	136	145	32	2,102

5.35 TIME OF DAY x STATUS

.1	Morning	Afternoon	Evening	Total
Academic staff	120 (16%)	156 (16%)	31 (8%)	307 (15%)
Postgraduate	38 (5%)	43 (5%)	22 (6%)	103 (5%)
Other staff	13 (2%)	14 (1%)	5 (1%)	32 (2%)
Student	582 (77%)	739 (78%)	339 (85%)	1,660 (79%)
Total	753	952	397	2,102

.2 Just significant at the 1% level (chi-squared = 19.4) this table shows a not unexpected decrease in the use by academic staff in the evening.

5.36 DAY x STATUS

.1	Mon.	Tues.	Wed.	Thur.	Fri.	Total
Academic staff	93 (18%)	50 (10%)	56 (15%)	62 (17%)	46 (15%)	307
Postgraduate	22 (4%)	22 (4%)	22 (6%)	17 (5%)	20 (6%)	103
Other staff	5 (1%)	7 (1%)	10 (3%)	6 (2%)	4 (1%)	32
Student	407 (77%)	444 (85%)	281 (76%)	285 (77%)	243 (78%)	1,660
Total	527	523	369	370	313	2,102

.2 Significant at the 5% level only, the main factor here is less use by academic staff on Tuesday. We suspect that this could possibly be due to an external factor such as a Faculty Board Meeting.

5.37 TIME PERIOD x REASON

.1	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	Total
a	72	74	30	36	97	47	40	46	28	47	39	22	33	38	12	661
b	20	31	3	13	17	2	7	8	5	13	16	1	10	13	0	159
c	23	21	8	12	15	12	16	13	6	17	16	3	14	23	0	199
d	11	16	5	12	13	5	5	10	8	4	11	8	7	7	4	126
e	2	8	4	3	4	6	3	8	7	4	3	2	2	3	1	60
f	2	3	1	0	0	1	2	4	0	2	5	1	2	1	0	24
g	6	5	2	3	11	3	2	5	1	4	5	1	2	1	1	52
h	8	13	1	7	7	1	6	2	2	4	7	1	4	9	0	72
i	30	18	16	29	55	32	29	22	27	28	45	17	36	31	8	423
j	6	4	0	3	6	1	1	5	1	1	5	0	4	4	0	41
k	16	24	3	10	20	2	10	9	4	5	7	4	7	7	1	129
l	16	20	5	9	16	13	9	11	7	9	7	6	15	8	5	156
Total	212	237	78	137	261	125	130	143	96	138	166	66	136	145	32	2,102

5.38 TIME OF DAY x REASON

.1	Morning	Afternoon	Evening	Total
a	228 (30%)	294 (31%)	139 (35%)	661 (31%)
b	63 (8%)	85 (9%)	11 (3%)	159 (8%)
c	82 (11%)	88 (9%)	29 (7%)	199 (9%)
d	39 (5%)	57 (6%)	30 (8%)	126 (6%)
e	14 (2%)	26 (3%)	20 (5%)	60 (3%)
f	8 (1%)	13 (1%)	3 (1%)	24 (1%)
g	17 (2%)	27 (3%)	8 (2%)	52 (2%)
h	29 (4%)	38 (4%)	5 (1%)	72 (3%)
i	152 (20%)	171 (18%)	100 (25%)	423 (20%)
j	15 (2%)	24 (3%)	2 (1%)	41 (2%)
k	48 (6%)	67 (7%)	14 (4%)	129 (6%)
l	58 (8%)	62 (7%)	36 (9%)	156 (7%)
Total	753	952	397	2,102

.2 Significant at the 1% level (chi-squared = 64) this is not unexpected as there are significant differences in the reasons for which full and part-time users come to libraries (see Table 5.13). The important factors are less use of non-course material (b) and more use for graduate research (e) by evening students.

5.39 DAY x REASON

.1	Mon.	Tues.	Wed.	Thur.	Fri.	Total
a	176 (33%)	180 (34%)	114 (31%)	108 (29%)	83 (27%)	661
b	54 (10%)	32 (6%)	20 (5%)	30 (8%)	23 (7%)	159
c	52 (10%)	39 (7%)	35 (9%)	36 (10%)	37 (12%)	199
d	32 (6%)	30 (6%)	23 (6%)	23 (6%)	18 (6%)	126
e	14 (3%)	13 (2%)	18 (5%)	9 (2%)	6 (2%)	60
f	6 (1%)	1 (<1%)	6 (2%)	8 (2%)	3 (1%)	24
g	13 (2%)	17 (3%)	8 (2%)	10 (3%)	4 (1%)	52
h	22 (4%)	15 (3%)	10 (3%)	12 (3%)	13 (4%)	72
i	64 (12%)	116 (22%)	78 (21%)	90 (24%)	75 (24%)	423
j	10 (2%)	10 (2%)	7 (2%)	6 (2%)	8 (3%)	41
k	43 (8%)	32 (6%)	23 (6%)	16 (4%)	15 (5%)	129
l	41 (8%)	38 (7%)	27 (7%)	22 (6%)	28 (9%)	156
Total	527	523	369	370	313	2,102

.2 Just significant at the 1% level (chi-squared = 72), the major factor is less use for private study (i) on Monday morning.

5.40 TIME PERIOD x SATISFACTION

.1	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	Total
Satisfied	187 (88%)	178 (75%)	69 (88%)	110 (80%)	205 (79%)	109 (87%)	110 (85%)	115 (80%)	79 (82%)	108 (78%)	138 (83%)	56 (85%)	114 (84%)	126 (87%)	25 (78%)	1,729 (82%)
Not satisfied	25 (12%)	59 (25%)	9 (12%)	27 (20%)	56 (21%)	16 (13%)	20 (15%)	28 (20%)	17 (18%)	30 (22%)	28 (17%)	10 (15%)	22 (16%)	19 (13%)	7 (22%)	373 (18%)
Total	212	237	78	137	261	125	130	143	96	138	166	66	136	145	32	2,102

5.41 TIME OF DAY x SATISFACTION

.1	Morning	Afternoon	Evening	Total
Satisfied	629 (84%)	762 (80%)	338 (85%)	1,729 (82%)
Not satisfied	124 (16%)	190 (20%)	59 (15%)	373 (18%)
Total	753	952	397	2,102

.2 Just significant at the 5% level only (chi-squared = 6.18) the possible factor here, although little reliance should be placed on it, is more dissatisfaction in the afternoon.

5.42 DAY x SATISFACTION

.1	Mon.	Tues.	Wed.	Thur.	Fri.	Total
Satisfied	434 (82%)	424 (81%)	304 (82%)	302 (82%)	265 (85%)	1,729
Not satisfied	93 (18%)	99 (19%)	65 (18%)	68 (18%)	48 (15%)	373
Total	527	523	369	370	313	2,102

.2 This table is not significant.

5.43 TIME PERIOD x DEPARTMENT (%)

.1	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	Total
A	21	19	26	14	23	26	22	24	24	25	21	29	19	13	21
B	13	13	17	10	11	12	5	15	11	8	7	18	7	12	11
C	1	<1	1	0	0	0	0	3	0	0	1	0	0	1	1
D	12	8	15	12	16	18	15	10	15	12	20	21	12	10	14
E	2	2	0	1	3	5	4	1	0	2	2	2	1	2	2
F	2	1	0	2	2	3	0	1	3	1	2	6	0	0	1
G	3	5	0	4	5	4	0	1	3	2	3	2	3	10	4
H	1	0	4	4	<1	2	4	3	3	0	1	0	2	3	2
I	8	5	4	9	7	5	8	1	8	3	4	3	5	6	6
J	3	1	8	3	4	2	2	2	3	2	5	0	4	5	3
K	3	4	3	1	3	5	3	3	1	4	6	3	9	11	4
L	2	2	3	4	1	3	1	1	5	3	4	0	7	1	2
M	2	11	8	7	3	0	8	5	6	6	8	3	4	4	6
N	0	<1	0	0	0	0	0	0	0	0	0	0	0	1	<1
P	21	18	9	20	17	8	19	22	8	23	14	6	22	17	17
Q	1	1	1	1	1	2	0	1	0	2	0	2	1	1	1
R	1	2	1	2	1	1	4	2	0	4	1	0	1	1	1
S	0	<1	0	0	0	1	0	1	0	0	0	0	0	1	<1
T	0	1	0	1	0	0	0	1	0	1	0	0	0	0	<1
U	2	5	1	1	2	3	5	3	8	2	1	6	3	1	3
N =	212	237	78	137	261	125	130	143	96	138	166	66	136	145	2,070

5.44 TIME OF DAY x DEPARTMENT

.1	Morning	Afternoon	Evening	Total
A	154 (20%)	193 (20%)	94 (26%)	441 (21%)
B	70 (9%)	109 (11%)	51 (14%)	230 (11%)
C	3 (<1%)	8 (1%)	1 (<1%)	12 (1%)
D	94 (12%)	123 (13%)	63 (17%)	280 (14%)
E	16 (2%)	20 (2%)	7 (2%)	43 (2%)
F	8 (1%)	12 (1%)	11 (3%)	31 (1%)
G	20 (3%)	46 (5%)	9 (2%)	75 (4%)
H	17 (2%)	13 (1%)	9 (2%)	39 (2%)
I	52 (7%)	49 (5%)	19 (5%)	120 (6%)
J	21 (3%)	33 (3%)	12 (3%)	66 (3%)
K	30 (4%)	47 (5%)	11 (3%)	88 (4%)
L	24 (3%)	15 (2%)	11 (3%)	50 (2%)
M	38 (5%)	62 (7%)	14 (4%)	114 (6%)
N	0 (0%)	2 (<1%)	0 (0%)	2 (<1%)
P	159 (21%)	168 (18%)	29 (8%)	356 (17%)
Q	9 (1%)	8 (1%)	4 (1%)	21 (1%)
R	17 (2%)	12 (1%)	2 (1%)	31 (1%)
S	0 (0%)	4 (<1%)	1 (<1%)	5 (<1%)
T	2 (<1%)	3 (<1%)	0 (0%)	5 (<1%)
U	19 (3%)	25 (3%)	17 (5%)	61 (3%)
	753	952	365	2,070

.2 Significant at the 1% level (chi-squared = 90), the low use of Navigation (P) in the evenings is undoubtedly due to the fact that evening opening only started in January.

5.45 DAY x DEPARTMENT

.1	Mon.	Tues.	Wed.	Thur.	Fri.	Total
A	110 (21%)	111 (21%)	86 (23%)	89 (24%)	61 (19%)	457 (22%)
B	71 (13%)	59 (11%)	39 (11%)	34 (9%)	31 (10%)	234 (11%)
C	5 (1%)	0 (0%)	4 (1%)	1 (>1%)	3 (1%)	13 (1%)
D	55 (10%)	81 (15%)	49 (13%)	64 (17%)	42 (13%)	291 (14%)
E	10 (2%)	16 (3%)	6 (2%)	7 (2%)	4 (1%)	43 (2%)
F	7 (1%)	12 (2%)	4 (1%)	8 (2%)	0 (0%)	31 (1%)
G	20 (4%)	23 (4%)	4 (1%)	9 (2%)	19 (6%)	75 (4%)
H	6 (1%)	10 (2%)	13 (4%)	2 (1%)	8 (3%)	39 (2%)
I	34 (6%)	38 (7%)	20 (5%)	13 (4%)	15 (5%)	120 (6%)
J	15 (3%)	18 (3%)	9 (2%)	12 (3%)	12 (4%)	66 (3%)
K	18 (3%)	16 (3%)	9 (2%)	17 (5%)	28 (9%)	88 (4%)
L	11 (2%)	12 (2%)	7 (2%)	10 (3%)	10 (3%)	50 (2%)
M	37 (7%)	19 (4%)	23 (6%)	23 (6%)	12 (4%)	114 (5%)
N	1 (>1%)	0 (0%)	0 (0%)	0 (0%)	1 (>1%)	2 (>1%)
P	94 (18%)	83 (16%)	65 (18%)	60 (16%)	54 (17%)	356 (17%)
Q	7 (1%)	5 (1%)	1 (>1%)	4 (1%)	4 (1%)	21 (1%)
R	7 (1%)	7 (1%)	8 (2%)	7 (2%)	2 (1%)	31 (1%)
S	1 (>1%)	1 (>1%)	2 (1%)	0 (0%)	1 (>1%)	5 (>1%)
T	2 (>1%)	1 (>1%)	1 (>1%)	1 (>1%)	0 (0%)	5 (>1%)
U	16 (3%)	11 (2%)	19 (5%)	9 (2%)	6 (2%)	61 (3%)
Total	527	523	369	370	313	2,102

.2 Significant factors in this table (which as a whole is significant, chi-squared 119) are:

Increased use by Metallurgy (K) on Friday

Biology (G) - less use on Wednesday and more use on Friday

Chemistry (H) - more use on Wednesday

These differences are probably derived from the teaching patterns in these departments.

5.46 USE OF MATERIAL IN x LIBRARY

.1	R	L	P
BS	1,619 (1,193)	570	261
CH	192 (97)	124	37
N	218 (164)	65	33
ST	312 (213)	241	328

Where R = Reference use of any books (from reshelving count)

L = Returned loans

P = Periodical use

( ) = Reference use from slip count

.1 It is interesting to note the fairly consistent percentage of under reporting by slip as opposed to reshelving count (BS = 1.34, CH = 1.98, N = 1.33, ST = 1.46, all = 1.40). This illustrates the inherent difficulty in carrying out this type of survey.

.2 If we look at the ratio of reference use to lending use we can obtain several ratios depending upon which we take to be accurate - the count or the slips as follows:

.1	Count		Slips	
Reference use of:	Books only	Books & journals	Books only	Books & journals
BS	2.84	3.30	2.09	2.55
CH	1.55	1.85	0.78	1.08
N	3.35	3.86	2.52	3.03
ST	1.29	2.66	0.88	2.24
All	2 34	3.00	1.67	2.33

.2 The total figures for the libraries would seem to agree with other U.S. and U.K. studies on this ratio. However, we need to test this ratio in future studies.

5.47 JOURNAL USE x LIBRARY

.1 B.S.

Journal	No. of times used
Accountants Mag.	1
Adweek	1
All England Law Reports	42
American Economic Review	3
American J. Compar. Law	2
Bank of England - Q. Review	3
Banker	5
Bankers Mag.	5
Barclays Bank Review	2
Banca Naz del Lavora Quarterly Review	2
Cambridge Law Journal	2
Commerc Motor	1
Common Market Law Review	6
Common Market Reporter	4
Criminal Law Review	1
Current Law Case Citator	2
Current Law Yearbook	1
Current Legal Problems	1
Economic Geogr.	1
Economic History Review	6
Economic Journal	1
Economica	1
Economist	4
English Reports	5
Flight International	1
Halsburys Statutes	4
International and Compar. Law Q.	8
J. Business Law	2
J. Chart Insurance Institute	4
J. Modern History	4
J. Polit. Econ. and Policy	3
J. Transport Econ.	6
J. Transport History	2
Law Quarterly Review	5

Journal	No. of times used
Lloyds Bank Review	5
Lloyds List of Law Reports	9
Management Today	1
Midland Bank Review	2
Modern Law Review	3
National Inst. Econ. Review	1
National West. Bank Review	4
New Law Journal	1
New Society	4
Political Quarterly	1
Public Administration	1
Pub. Gen. Acts and Meas.	2
Q.J. Economics	1
Scand. Studs. in Law	1
Tax Cases	7
Tpt. History	4
Weekly Law Reports	25
Total no. of times journals were used	261

.2 S.T.

Journal	No. of times used
Adv. Compar. Physiol. & Biochem.	1
Annals Assoc. Amer. Geogr.	4
Annual Rev. Physiol	1
Area	1
Biol. Abstr.	8
Biol. Reviews	1
Career and Other Pursuits	1
Chem. Abstr.	3
Chem. Soc. Reviews	1
Educ. and Training	1
Geografiska Annalen	1
Geogr. Journal	1
Geogr. Mag.	13
Geogr. Review	11
Geography	4
Geological Journal	1
Geological Mag.	2
Inst. Brit. Geog. Trans. & Papers	5
J. Am. Chem. Soc.	14
J. Biol Ed.	19
J. Chem. Ed.	1
J. Chem. Physique	1
J. Ecology	1
J. Exper. Zool.	4
J. Geol. Soc	1
J. Modern Afric. Studs.	2
J. Molec Biol.	1
J. Org. Chem	13
J. Petrology	4
J. Polymer Sci.	4
Maths of Comput.	1
Nature	126
New Sci.	43
Phil. Trans. (Biol)	1

Journal	No. of times used
Phytochemistry	8
Pro. Geol. Assoc.	6
Regional Studies	1
Science	4
Sci. Amer.	4
Scott Geogr.	3
Scott J. Geol.	1
Tectonphysics	1
Weather	2
Which	1
Your Environment	1
Total no. of times journals were used	329

Journal	No. of times used
Blue Star News	1
Fairplay	1
Hoverfoil News	1
J. Inst. Navigation	4
J. Navigation	2
Lloyds Law Reports	1
Lloyds Register World	1
Lloyds Weekly Casualty Report	3
Marine Engineer Review	1
Marine Observer	1
Mariners Mirror	1
MMSA Reporter	1
Motor Ship	1
National Ports Council Bull	1
Naval Architect	2
New Scientist	3
Ocean Industry	1
P & O Group News	1
Seafarer	1
Shipping World	2
Trans Inst. Naval Arch.	1
Satety at Sea	1
Wavelength	2
Yachting and Boating Weekly	1
Yachting World	1
Total no. of times journals were used	34

.4 CH

Journal	No. of times used
Annual Review Psychol.	1
Apollo	1
Brit. J. Psychol.	4
Cognitive Psychol.	2
Connoisseur	1
Corrosion Science	4
Design	5
Domus	1
Electrochim Acta.	3
Jewellers Circular	1
J. Exp. Psychol	1
J. Iron and Steel Inst.	1
J. Matl Sci.	2
J. Soc. Clin. Psychol.	2
Novum	1
Psychol Abs.	1
Q J Exp. Psychol	3
Sight and Sound	1
Studio Internat	2
Total no. of times journals were used	37

5.48 JOURNAL USE x DEPARTMENT (i.e. Journals allotted to departments)

.1 Department	No. of journal uses made
A	29
B	33
C	
D	185
E	
F	14
G	46
H	25
I	64
J	1
K	10
L	1
M	14
N	
P	33
Q) R))	13
S	
T	
U	183
Total	651

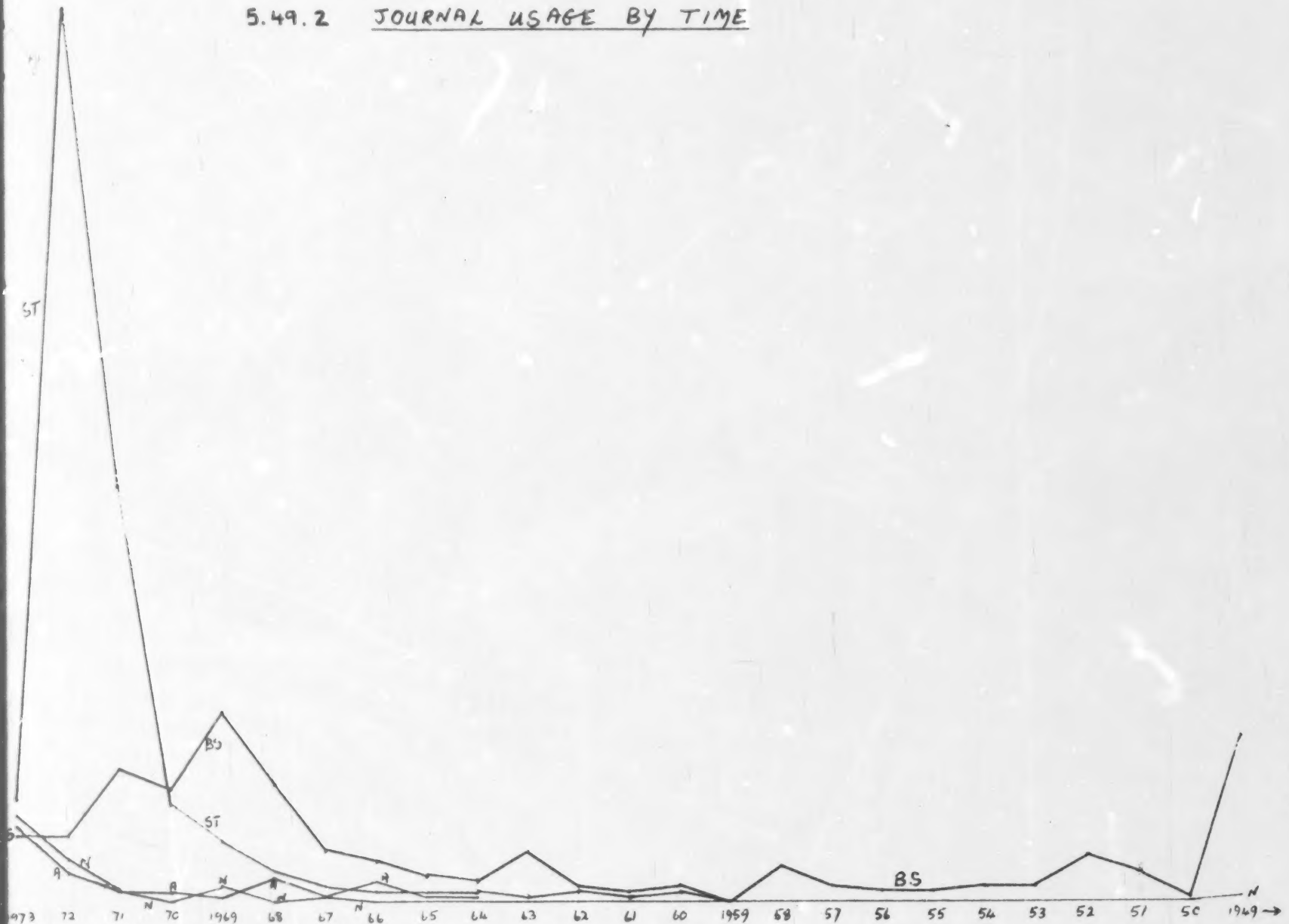
In this table as far as possible a journal was allotted to a specific Polytechnic department. Nature and New Scientist were allotted to 'other' (and account for 172 items in this group.)

5.49 JOURNAL USE x DATE OF JOURNAL

.1 Date	No. of uses made			
	B	S	N	CH
1973	13	20	17	15
2	13	173	8	6
1	26	81	2	2
0	22	19		2
1969	37	13	3	1
8	23	6		5
7	10	3	1	1
6	8	2		4
5	5	2		
4	4	2		1
3	10	1		
2	3	2		
1	2	1		
0	3	2		
1959				
8	7			
7	3			
6	2			
5	2			
4	3			
3	3			
2	9			
1	6			
0	1			
1949 back	32		1	

This table and the accompanying graph provide a very good illustration of the heavy dependence of science upon the recent literature and the much broader time base required by the social sciences. Although a longer survey would undoubtedly increase, for science, the time period of usage, the existing data has certain specific implications for the journal holdings at ST.

5.49.2 JOURNAL USAGE BY TIME



6. SUMMARY OF OBSERVATIONS

.1 Less part-time users were not satisfied than was to be expected; and less did not find exactly what they were looking for. It seems probable that part-time users make less demands on the library service and are therefore less likely to be unsatisfied. (See 5.6 and 5.7)

2. Many more users are satisfied who do not find what they are looking for, than would be expected. This may be because they have low expectations of the library's capabilities. (See 5.8)

.3 ST and CH users are less likely to find the material they want, while N users are more likely to. Probably these figures can be explained by the degree of demand made upon the libraries. ST, where more research is carried out, could expect a much wider range of requests for material and information which would not be immediately available in the library. N users, on practical courses make less demands (or more predictable ones) upon the library. The figures for CH are undoubtedly explained by the mixture of science and art courses - both of which make wide demands. (See 5.9)

.4 As would be expected there is very little cross use of libraries by departments other than those they immediately serve. This is not to say that such lack of use is desirable. (See 5.11)

.5 The number of part-time postgraduate students using the libraries is much higher than would be expected, and to some extent the number of part-time academic staff is lower. (See 5.12)

.6 More part-time users come to the library for multiple reasons and to borrow materials for further reading, while they do less research for term papers. The latter is not surprising since the nature of part-time courses doubtless excludes the writing of term papers. (See 5.13)

.7 More academic staff, and to some extend fewer students, ask the library staff for information. Fewer academic staff work with their own books. More academic staff and fewer students do research for publishable papers. More academic staff get material photocopied. The first three features are not surprising. The fourth is, and could possibly have altered since the introduction of coin-operated photocopiers. (See 5.14)

.8 More academic staff use N than would be expected and fewer use BS. More postgraduate students use ST. The latter is explainable in terms of the number of post-graduate students at the School of Science compared with the other schools. The first element can be explained in terms of the practical nature of N courses. The second feature is surprising and not readily explained in terms of lack of success or satisfaction at BS or indeed of any other factor. (See 5.15)

.9 It seems that part-time students and staff at CH use the library considerably more than one would expect. (See 5.16)

.10 There is particularly high use at BS for working with own books, and at N for photocopying and using or reading non-course material. On the other hand, there is low use at N for working with own books. (See 5.17)

.11 Not surprisingly people coming to work with their own books are much less likely not to be able to find what they want. However, people are less likely to find material for course reading. (See 5.18)

.12 There is a likelihood of users doing research for term papers being dissatisfied. (See 5.19)

.13 There is more use of N by Navigation academic staff and less by students than would be expected; and there is less use of BS by Banking and Commerce academic staff. (5.20)

.14 Geology users are less likely to find what they want and more likely not to; Professional Studies users are less likely not to find material; and Psychology users and Economics users are more likely to find what they came into the library for (See 5.21)

.15 It would appear that academic staff are less likely not to find items which they require. (See 5.23)

.16 Users from the three departments, Economics, Geology and Psychology are more likely not to be satisfied. (See 5.24)

.17 Academic staff are less likely not to be satisfied. This may be explained by their increased information gathering sophistication. (See 5.25)

.18 It seems probable that more Economics users are likely to do research for term papers; more Professional Studies users are likely to work with their own books; more Navigation users are likely to (a) have material photo-copied, (b) use material not connected with their course, and (c) to seek information, however, less are likely to work with their own books; and finally, more Metallurgy users are likely to do research for a publishable paper. (See 5.26)

.19 Significantly more students use BS on Thursday evening and CH on Monday afternoon. Significantly fewer use ST on Wednesday afternoon. This latter reflects the much greater involvement of science students generally with sport. (See 5.27)

.20 There is a greater use of the libraries by part-time users on Tuesday and a lesser one on Thursday. Although the part-time course pattern has not been investigated we would guess that the differences reflect this. (See 5.30)

.21 There is an unexpected decrease of use of the libraries in the evening by academic staff. (See 5.35)

.22 The results indicate less use by academic staff on Tuesday, but it is suspected that this could be due to an external factor such as a Faculty Board meeting. (See 5.36)

.23 Fewer evening students seek non-course material than would be expected but more come to obtain material for graduate research. (See 5.38)

.24 Fewer users than would be expected come into the libraries Monday morning to work with their own books.

.25 The figures obtained would suggest, although little reliance should be placed on them, that more users in the afternoon are likely not to be satisfied with their visit to the library. (See 5.41)

.26 Users from the Navigation department make low use of the library in the evening, but this is undoubtedly due to the fact that evening opening at N only started in January 1973. (See 5.44)

.27 Significantly more users from Metallurgy use the library on Friday, more from Biology on Friday, but less on Wednesday and more from the Chemistry department on Wednesday. These differences are probably derived from the teaching patterns in these departments. (See 5.45)

.28 In the reshelving survey there was a fairly consistent percentage of under reporting by slip as opposed to the hourly count record. This illustrates the inherent difficulty in carrying out this type of survey. (See 5.46)

.29 The ratio of reference use to lending use would seem to agree with other US and UK studies. (Table 5.46)

.30 ST shows the expected heavy dependence in journal usage on recent publications whilst BS shows a much longer time spread (even in one case back to the period 1689/1735).

N.B. The comparative terms, more, less and fewer are used to compare the figures obtained against the figures one would expect from a statistical analysis. Therefore, we are not saying, for example, "More (i.e. 1,000) academic staff get material photocopied (then students i.e. 100)". What we are saying is "More academic staff get material photocopied (than our expected figure arrived at statistically).

7. CONCLUSION

.1 A measure of overall library effectiveness has been established for the CoLP library service which can be used as a base for future comparisons.

.2 Although possible explanations for many of the results have been put forward the study indicates which areas need to be investigated in greater detail in the future; for example, why the users of ST and CH are less likely to find the material they are looking for.

.3 Basic statistics on the library and material usage have been gathered which will prove useful in policy making and forward planning of the library service. For example, if there is a likelihood of users doing research for term papers being dissatisfied this should be given careful consideration in view of the proposed modular degree and the teaching methods to be employed.

8. APPENDICES

8.1

LIBRARY SURVEY

NOTES FOR LIBRARY STAFF

1. INTRODUCTION

A survey of the library will be carried out in February in three stages:

(a) a questionnaire survey: 12th - 16th February

(b) reshelving survey: 19th - 23rd February

(c) reference question survey: throughout the month.

The purpose of these notes is to provide detailed guidance for library staff about the conduct of the survey. They are divided into three sections corresponding to (a), (b) and (c) above. They are being distributed at an early stage so that time can be allowed for reading them and raising any questions. A briefing session will be held in each library during the week 5 - 9th February (for (a) and (b) above).

2. QUESTIONNAIRE SURVEY 12th - 16th FEBRUARY

2.1 Mary Auckland and I will visit each library during the week 5 - 9th February for the briefing session and to deliver:

survey forms
boxes
notices.

2.2 First thing on the 12th the box with forms in it and the empty box for return of forms should be placed in a suitable position (to be defined) within each library and the notices put up.

2.3 The returned survey forms should be collected three times a day bundled up and sent to me. The bundle should indicate:

(a) the name of the library
(b) the time period of the bundle as follows:

collection time	time period
just before 0900	evening
1300	am
1700	pm

(c) the day of the week.

2.4 If you do see anyone leaving a library without filling in a form please ask them to. Forms are to be filled in on each visit to the library.

2.5 If you use the library apart from helping readers (e. g. look up a phone number or borrow a book for your own use) please fill in a form.

2.6. Enough copies of the questionnaires should be provided. If you do find you are running short phone us immediately (or before if possible).

3. RESHELVING SURVEY 19th - 23rd FEBRUARY

3.1 All returned loan copies of books which are reshelved should be counted.

3.3 Books and periodicals used in the library i.e. reference books and loan books used for reference purposes should be reshelved from the tables at hourly intervals (0900, 1000, 1100 etc.) and two processes carried out:

3.3.1 A count of the number of items reshelved

3.3.2 In the back of each item reshelved paper clip a normal issue slip, date stamp this slip with the date of use each time the book or periodical is reshelved.

3.4 A form will be provided for keeping a record of the counts.

3.5 We will return and analyse the slips at a later date.

4. REFERENCE QUESTION SURVEY 1st - 28th FEBRUARY

4.1 Using the existing enquiry records note all information enquiries (see 4.3 below) together with:

Department
Status (academic staff/postgraduate student/other staff/ 'normal' student)
Attendance (Full-time/part-time)
Whether the enquiry was answered satisfactorily or not.

4.2 Supplies of the form will be issued to those libraries requiring them.

4.3 The definition of what is an information enquiry is difficult. Some guidelines follow:

INCLUDE (a) all enquiries relating to a subject whether the enquirer limits this to the library stock or not.

(b) ALL enquiries relating to information on bodies, people etc. outside the library e.g. addresses, telephone numbers, company information, biographical information.

EXCLUDE (a) questions relating to internal library operations and services e.g. renewals, non arrival of periodicals, use of catalogue, whether the library holds a particular book, library closing times, etc.

4.4 All library personnel should be prepared to complete forms - not just senior staff with specific responsibility for enquiry work.

5. Finally, I am aware that this survey is going to throw extra work onto the library staff and I am grateful for your co-operation. The reasons for the survey have been explained and the results should be of great value in the future.

If there are any queries please telephone X463.

Alan Pritchard
19.1.73.

CITY OF LONDON POLYTECHNIC
LIBRARY SURVEY

Please complete a form on EACH visit to the library. RETURN it on your way out.

1. PRIMARY REASON FOR YOUR VISIT TO THE LIBRARY. TICK ONE BOX ONLY.

   (a) Find and read material required for course ☐

   (b) Use or read material not connected with course ☐

   (c) Borrow library material for further reading ☐

   (d) Do research for term papers or seminar papers ☐

   (e) Do research for graduate exams or thesis ☐

   (f) Do research for publishable paper or book ☐

   (g) Get some material photocopied ☐

   (h) Return materials to the library ☐

   (i) Work with own books ☐

   (j) Seek information which does not require borrowing of library materials (asking a question of library staff) ☐

   (k) Any other reason ☐

2. Did you get exactly what you came in for YES ☐ NO ☐

3. Are you: Academic staff ☐ . Postgraduate student ☐

   Other Staff ☐ . Student ☐

4. Are you: Full-time ☐ . Part-time ☐

5. Were you satisfied with your visit today YES ☐ NO ☐

6. NAME _____

   DEPARTMENT _____

PLEASE RETURN ON YOUR WAY OUT

8.3

CITY OF LONDON POLYTECHNIC	SUBJECT ENQUIRY FORM	
Enquirer's name & address Phone/Telex		Enquirer will call* phone* expect* reply by post* phone* **NOT LATER THAN**

Enquiry *Please be specific, ticking appropriate headings in column on right*	LEVEL elementary advanced research AMOUNT encyclopaedic periodical article book LANGUAGES English only other *(specify below)*	*Initials*	*Date*
		Received by	
		Passed to	
		Other action	
		Enquirer informed verbally by post**	

*Delete as appropriate

PTO

Sources	Reply

8.4

CITY OF LONDON POLYTECHNIC RESHELVING SURVEY

LIBRARY:

TIME	MON		TUES		WED		THUR		FRI	
	R	L	R	L	R	L	R	L	R	L
0900										
1000										
1100										
1200										
1300										
1400										
1500										
1600										
1700										
1800										
1900										
2000										
2100										

R: Reference use of any book or periodical

L: Returned loans and reservations